



Designated according to The Construction Products (Amendment etc.) (EU Exit) Regulations 2020

UK Technical Assessment	UKTA-0836-22/6535 of 11/01/2023
Technical Assessment Body issuing the UK Technical Assessment:	British Board of Agrément
Trade name of the construction product:	FuranFlex
Product family to which the construction product belongs:	Product Area 6 Chimneys, flues and specific products
Manufacturer:	Kompozitor Plastics Developing Ltd. Széchenyi utca 60 H-2220 Vecsés, Hungary
Manufacturing plant(s):	Kompozitor Plastics Developing Ltd. Széchenyi utca 60 H-2220 Vecsés, Hungary
This UK Technical Assessment contains:	9 pages including 2 annexes which form an integral part of the document.
This UK Technical Assessment is issued in accordance with The Construction Products (Amendment etc.) (EU Exit) Regulations 2020 on the basis of:	UKAD No. 060012-00-0802 <i>Kit consisting of chimney flue liner, made of glass fibres, mineral and organic substances, and ancillaries</i>

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1. Technical description of the product

FuranFlex⁽¹⁾ is a kit for the renovation and adaptation of existing chimneys. The kit comprises a flexible flue liner (made of glass fibre and mineral and organic substances), and additional elements (fittings, cleaning and inspection doors, spacers, condensate collector) – see bullet points below. The liner's basic material is glass-fibre-reinforced thermosetting resin. The liner is put in an existing outer wall of a chimney on site.

(1) FuranFlex is a registered trademark

- flue liner with internal nominal diameter dimensions of 0.08 m to 1.25 m
- metallic fittings
- cleaning and inspection doors, made of metal (Note: the condensate is lead to the outside by means of a connecting flue pipe and, instead of a cleaning door, direct access is provided from the outside)
- condensate collector, made of metal
- spacers (optional), made of spiral rings of stainless steel

The kit can be used in wet and dry conditions and has a corrosion resistance class 2 according to EN 1443 : 2019, Clause 4.5. It can be used under positive and negative pressure chimneys and has a working temperature class T 200 according to EN 1443 : 2019, Clause 4.2. The distance to burnable materials, indicated by "Oxx", is subject to the design situation, depicted in Annex A, and detailed in Clause 3.3.1, of this UKTA.

The flue liner according to this UKTA is protected against UV radiation by means of an appropriate covering according to the manufacturer's instructions.

The composition of the flue liner is confidential and is kept with the Technical Assessment Body, the British Board of Agrément.

The metallic fittings and condensate collector, when used according to the designation given in this UKTA, are covered by EN 1856-1 : 2009 and EN 1856-2 : 2009. The relevant information is found in the technical documentation, kept with the Technical Assessment Body, the British Board of Agrément.

Note: The use of a siphon is not covered by the assessment of this UKTA.

The spacers are made of stainless steel ring springs. The mechanical properties of FuranFlex are defined by its length, the diameter of the wires and the spring, and the tensile force of the liner, and is found in the technical documentation, kept with the Technical Assessment Body, the British Board of Agrément.

Drawings of FuranFlex and its components are given in Annex B.

The hardening process of the flue liner takes place on site during installation and occurs by means of special heat treatment and using specific devices according to the manufacturer's instructions, which also includes provisions for correct installation.

Regarding product packaging, transport, storage, maintenance, replacement and repair, it is the responsibility of the manufacturer to undertake the appropriate measures and to advise their clients on the transport, storage, maintenance, replacement and repair of the product, as is considered necessary.

2. Specification of the intended use(s) in accordance with the applicable UK Assessment Document (hereinafter UKAD)

The flue liner is used for renovation or adaptation of existing chimneys, for classification of resistance to fire from outside, the conditions for the existing outer wall apply. The design situations for which the product is to be used are depicted in Annex A of this UKTA.

The product, according to this UKTA, can be used for vertical and non-vertical installation,

where a value of 45° is considered as maximum allowable inclination.

The use is related to:

- Chimneys with one heating appliance for corrosion resistance classes 1 and 2 according to EN 1443 : 2019; for corrosion resistance class 3 natural wood is excluded.

The designation of the chimney system may be used on is based on the following information:

Designation according to EN 1443 : 2019:

- Temperature class
- Pressure class, where the assessment of class P1 also allows the declaration of N1
- Condensate resistance class
- Corrosion resistance class
- Sootfire resistance class, “O”, followed by a distance to combustible materials, depending on the design situation (including related assessment method)

The provisions made in this United Kingdom Technical Assessment are based on an intended working life of 10 years, provided that the chimney flue liner (made of glass fibres, mineral and organic substances) and ancillaries, are subject to appropriate installation, and provided that the kit is subject to appropriate use and maintenance.

It is the responsibility of the manufacturer to ensure that each delivery contains the correct information for the use of the kit, including general guidance on the basis of the United Kingdom Technical Assessment. For components subject to wear (cleaning and inspection doors) the need of replacement is to be considered during use of the kit.

The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer or the Technical Assessment Body, the British Board of Agrément but are to be regarded only as a means for choosing the appropriate product in relation to the expected, economically reasonable working life of the installation.

3. Performance of the product and references to the methods used for its assessment

3.1 Mechanical resistance and stability (BWR 1)

Not relevant.

3.2 Safety in case of fire (BWR 2)

Table 3.2

Essential characteristics	Method of assessment	Performance
Reaction to fire of the flue liner	UKAD, Clause 2.1.2	B-s2, d0

3.3 Health, hygiene and the environment (BWR 3)

Table 3.3

Essential characteristics	Method of assessment	Performance
Thermal performance	UKAD, Clause 2.2.1.2	Clause 3.3.1 in this UKTA
Gas tightness/leakage	UKAD, Clause 2.2.1.3	Class “P1”
Flow resistance	UKAD, Clause 2.2.1.4	
	Flue liner vertical installation: EN 13216-1 : 2019	mean roughness r = 0.0005 m
	Flue liner non-vertical installation: EN 13216-1 : 2019	ζ-value = 0.86
	Metallic fittings: EN 13384-1 : 2015, Table B.8, Figure 5	ζ-value = 1.20
Thermal resistance	UKAD, Clause 2.2.1.5	Clause 3.3.2 in this UKTA
Durability/Condensate	UKAD, Clause 2.2.1.6	Class “W”

resistance		Design situations according to Clause 3.3.1 in this ETA
Durability against chemicals and corrosion	UKAD, Clause 2.2.1.7	Class "2"

3.3.1 Thermal performance

Design situation No 1 according to Annex A of this UKTA:

T200 P1 W2 O40 (Assessment according to EN 13216-1 : 2019) based on boundary conditions stated in Table 3.3.1 of this UKTA.

Design situation No 2 according to Annex A of this UKTA with ventilation:

T200 P1 W2 O00 (Assessment according to EN 13216-1 : 2019) based on boundary condition for the outer wall of a thermal resistance of the chimney system of $\geq 0.08 \text{ m}^2\text{KW}^{-1}$ and related internal nominal diameter = 0.2 m.

Design situation No 2 according to Annex A of this UKTA without ventilation:

T200 P1 W2 O40 (Assessment according to EN 13216-1 : 2019) based on boundary conditions stated in Table 3.3.1 of this UKTA.

Design situation No 3 according to Annex A of this UKTA:

T200 P1 W2 O00 (Assessment according to EN 13216-1 : 2019) for double wall chimneys with thermal resistance of $R \geq 0.35 \text{ m}^2\text{KW}^{-1}$.

T200 P1 W2 O100 (Assessment according to EN 13216-1 : 2019) for single wall chimneys.

Table 3.3.1: Reference scenario used for outer wall for classification of FuranFlex for renovation/adaptation of existing chimneys

Thermal resistance of the chimney system (m^2KW^{-1})	Thickness of outer wall (m)	Internal nominal diameter (m)
≥ 0.09	≥ 0.115	≤ 0.35
≥ 0.12	≥ 0.115	≤ 0.65
≥ 0.15	≥ 0.115	≤ 1.40

3.3.2 Thermal resistance

Table 3.3.2

Internal nominal size in terms of diameter	Design situations according to Annex A of this UKTA	Result	Thermal resistance Ryy
0.20 m	No 1a	$0.11 \text{ m}^2\text{KW}^{-1}$	R11
	No 1b	No performance assessed	
	No 2 (with ventilation)	$0.13 \text{ m}^2\text{KW}^{-1}$	R13
	No 2 (without ventilation)	$0.14 \text{ m}^2\text{KW}^{-1}$	R14
	No 3 (with thermal insulation of thickness = 25 mm)	$0.40 \text{ m}^2\text{KW}^{-1}$	R40

The thermal resistance Ryy is evaluated based on an internal diameter of 0.20 m for the flue liner with a thermal conductivity = 0.27 WmK^{-1} , and a thickness of 0.00216 m. Depending on the individual installation situation, the thermal resistance Ryy values are to be calculated for the internal diameter and depending on the specific design situation.

3.4 Safety and accessibility in use (BWR 4)

Table 3.4

Essential characteristics	Method of assessment	Performance
Maximum height (including non-vertical installation)	UKAD, Clause 2.2.1.8	Clause 3.4.1 in this UKTA
Durability of the flue liner:	UKAD, Clauses 2.2.1.9.1 – 2.2.1.9.5	Durable
Long-term resistance to thermal load		
Resistance to wet/dry cycling		
Long-term compatibility with ancillaries (made of metal)		
Compound of the layer		Resistance
Durability against freeze-thaw		

3.4.1 Maximum height

Maximum allowable height for vertical installation (design situation No 2 according to Annex A of this UKTA): 138 m.

Note: Less severe design situations may result in another maximum height of the kit.

Maximum allowable height in case of non-vertical installation, including the section above the non-vertical section: 35 m.

Maximum allowable inclination for non-vertical installation: 45°.

3.5 Protection against noise (BWR 5)

Not relevant.

3.6 Energy economy and heat retention (BWR 6)

Not relevant.

3.7 Sustainable use of natural resources (BWR 7)

No performance assessed.

4. Assessment and verification of constancy of performance (hereinafter AVCP) system applied

4.1 System of assessment and verification of constancy of performance

According to UKAD No. 060012-00-0802 and Annex V of the Construction Products Regulation (Regulation (EU) 305/2011 as brought into UK law and amended, the system of assessment and verification of constancy of performance (AVCP) 2+ applies.

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable UKAD

Technical details necessary for the implementation of the AVCP system are found in the control plan kept with the British Board of Agrément and made available to the UK Approved Bodies involved in the conformity attestation process.

5.1 UKCA marking for the product/ system must contain the following information:

- Identification number of the Approved Body
- Name/address of the manufacturer of the product/ system
- Marking with intention of clarification of intended use
- Date of marking
- Number of certificate of constancy of performance
- UKTA number.

On behalf of the British Board of Agrément



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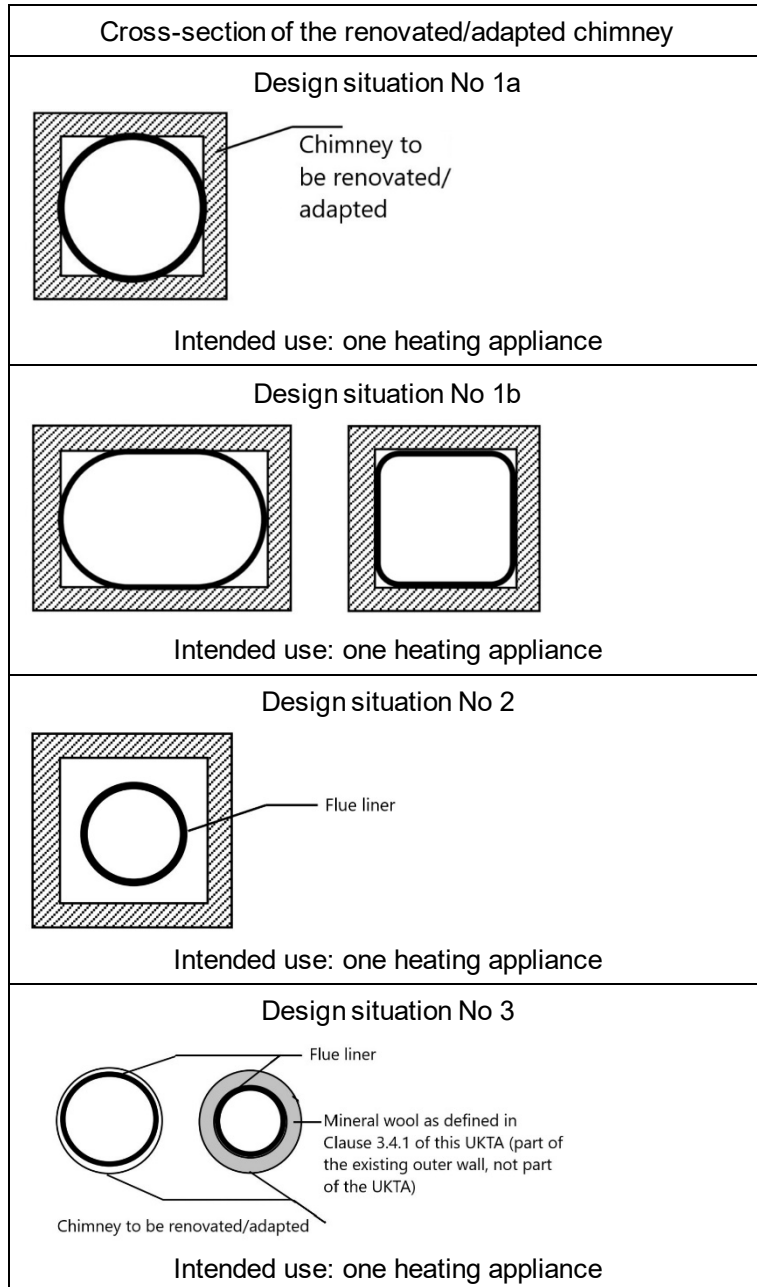
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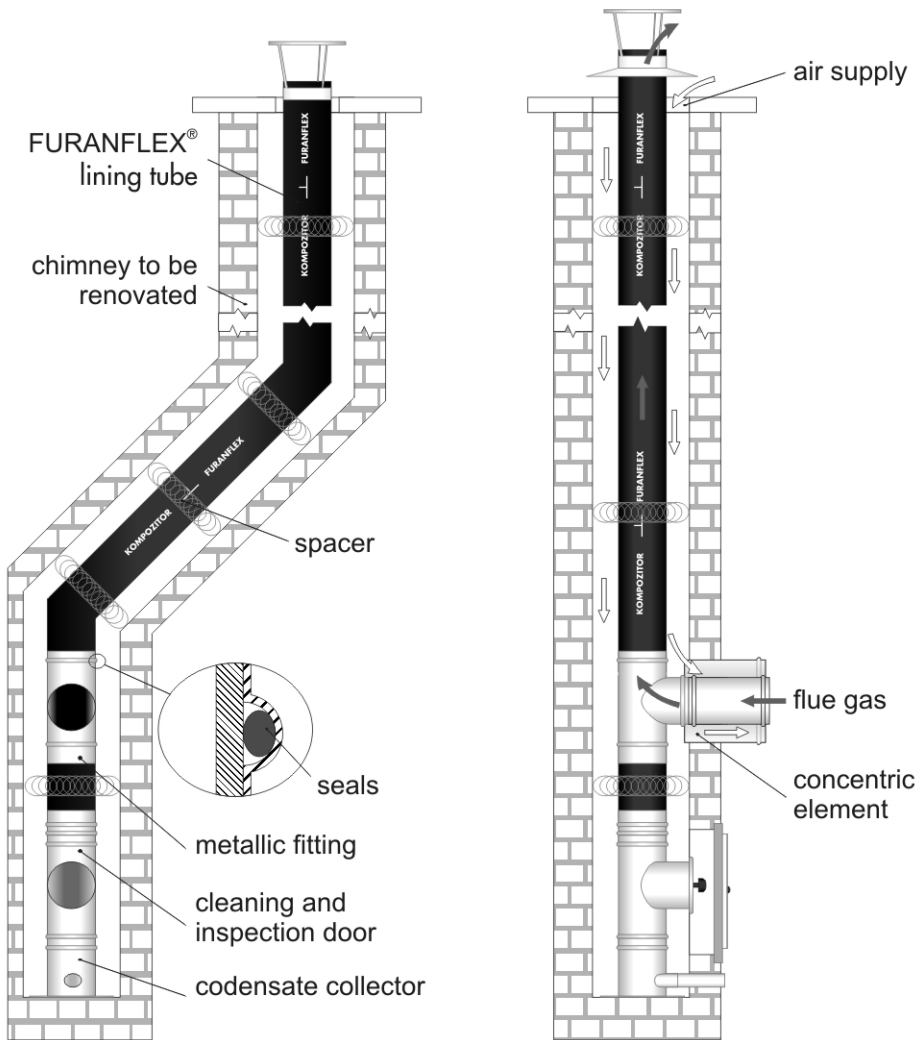
ANNEX A: Design situations for renovation or adaption of existing chimneys

Drawings



Note: Design situations given in 1a and 1b are representing similar situations for different cross sections of the chimney.

ANNEX B: Renovation or adaption of existing chimneys



Separated P1 configuration with an elongation according to design situation 2

Concentric P1 configuration according to design situation 2

Reference documents

UKAD United Kingdom Assessment Document (UKAD), UKAD 060012-00-0802 *Kit consisting of chimney flue liner, made of glass fibres, mineral and organic substances, and ancillaries*

EN 1443 : 2019 *Chimneys – General requirements*

EN 1856-1 : 2009 *Chimneys – Requirements for metal chimneys – Part 1: System chimney products*

EN 1856-2 : 2009 *Chimneys – Requirements for metal chimneys – Part 2: Metal flue liners and connecting flue pipes*

EN 13216-1 : 2019 *Chimneys – Test methods for system chimneys – Part 1: General test methods*

EN 13384-1 : 2015 + A1 : 2019 *Chimneys – Thermal and fluid dynamics calculations methods – Part 1: chimneys serving one heating appliance*

EN 14297 : 2004 *Chimneys – Freeze-thaw resistance test method for chimney products*

EN 14471 : 2013 + A1 : 2015 *Chimneys – System chimneys with plastic flue liners – Requirements and test methods*



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